

CLAIMS

5 1. An acetabular liner for receiving a femoral head fixed on a stem component comprising:

an outer surface;

an inner surface being concave and forming a cavity adapted to receive the femoral head; and

10 a rim surface located circumferentially along the top edge of the liner and joining upper edges of the inner and outer surfaces, the rim surface having at least one elevated portion with a transitional area at each end and at least one non-elevated portion, the transitional area connecting a top surface of the elevated portion and the non-elevated portion of the rim surface, wherein at least a portion of the transitional area is concave for allowing an increased range of motion of the stem component relative to the acetabular liner.

20 2. An acetabular liner for receiving a femoral head fixed on a stem component comprising:

an outer surface;

an inner surface being concave and forming a cavity adapted to receive the femoral head of the stem component; and

25 a rim surface located circumferentially along the top edge of the liner and joining upper edges of the inner and outer surfaces, the rim surface having at least one elevated portion and at least one non-elevated portion, wherein the elevated portion forms approximately one third or less of the circumferential rim surface.

3. An acetabular liner for receiving a femoral head fixed on a stem component comprising:
an outer surface;
an inner surface being concave and forming a cavity adapted to receive the femoral head of the stem component; and
a rim surface located circumferentially along the top edge of the liner and joining upper edges of the inner and outer surfaces, the rim surface having at least one elevated portion and at least one non-elevated portion, the elevated portion having a concave inner surface that is a continuation of the inner surface of the cavity of the liner for securely containing the femoral head of the stem component in a snap fit.
4. An acetabular liner according to at least any two of the preceding claims.
5. The acetabular liner according to any of claims 1 to 4, wherein the rim surface extends at least in part above the hemisphere of the cavity.
6. The acetabular liner according to claim 5, wherein the non-elevated portion of the rim surface has a bevelled surface.
7. The acetabular liner according to claim 6, wherein the non-elevated portion of the rim surface is so bevelled to extend approximately to the hemisphere of the cavity such that, when the stem component is moved to an extreme position, a femoral neck of the stem component first contacts an inner edge of the bevelled surface and then contacts the entire bevelled surface.
8. The acetabular liner according to claim 6, wherein the bevelled surface of the non-elevated portion is so formed that a snap fit between the femoral head and the liner is provided over the entire circumference of the cavity of the liner.

9. The acetabular liner according to any one of the preceding claims,
wherein the rim surface has substantially one elevated portion.
- 5 10. The acetabular liner according to any one of the preceding claims,
wherein the shape of the transitional area corresponds to the cross-
sectional shape of a neck attached to the femoral head of the stem
component.
- 10 11. The acetabular liner according to any of claims 1 to 10, wherein the
transitional area is curved with a radius of curvature, preferably the
radius of curvature being greater than the radius of a neck attached to
the femoral head of the stem component.
- 15 12. The acetabular liner according to any of claims 1 to 11, further
comprising means for attaching the liner securely to an acetabular cup
component.
- 20 13. A method of manufacturing an implant, in particular an acetabular liner
according to any one of the preceding claims, comprising the steps of :
providing an outer surface;
providing an inner surface being concave;
forming a cavity using the inner surface, the cavity being adapted
to receive a head fixed on a femoral stem component;
providing a rim surface circumferentially along the top edges of the
25 implant, the rim surface joining upper edges of the inner and outer
surfaces;
providing at least one elevated portion and at least one non-
elevated portion on the rim surface;
the method comprising at least one of the following steps:
30 providing the at least one elevated portion with a concave
transitional area at each end of the at least one elevated portion, the

transitional area connecting a top surface of the at least one elevated portion and the non-elevated portion of the rim surface;

forming the elevated portion on approximately one third or less of the circumferential rim surface;

5 providing the at least one elevated portion with a concave inner surface that is a continuation of the inner surface of the cavity of the implant.

14. The method according to claim 13, wherein the concave transitional area
10 is formed by a milling cutter.

15. An endoprosthesis assembly for total hip joint replacement comprising:
the acetabular liner according to any one of claims 1 to 12;
an acetabular cup component adapted to receive and connect with
15 the acetabular liner; and
a femoral component comprising a head, neck and stem, wherein the head is adapted to articulate within the cavity of the acetabular liner.